ADDITIONAL NOTES ON THE GENUS *FARADAYA (VERBENACEAE)*. I

Harold N. Moldenke

FARADAYA F. Muell.

Additional & emended bibliography: Pynaert, Bull. Agric. Cong. Belg. 11: 213, fig. 43. 1920; Mold., Phytologia 51: 384--400. 1982.

FARADAYA LEHUNTEI (Horne) A. C. Sm.

Additional bibliography: Mold., Phytologia 51: 399--400. 1982.

Collectors describe this species as "twisting around and over the branches of rainforest trees" (*Bryan 284*), to 6 m. tall, the stems to 15 cm. in diameter at breast height, or a woody vine or liana; bark moderately rough, gray-brown or mottled gray-brown and olive; sapwood soft, brown; heartwood soft, yellow-brown, pithy; pith brown; flower-buds greenish-white; flowers fragrant; calyx 4-lobed; corolla white; filaments and style white; fruit small, round, at first green, later reddish, orange or orange-red when mature, in fours, "pickle-like"..

They have encountered it in dense forests, the edges of forests, dense bush and thickets, often on hills, at 100--970 m. altitude, in anthesis in February, April, and May, and in fruit in April (young), June, August, and October.

Faradaya neo-ebudica is based on *Kajewski 813* from the rainforest at Anelgauhat Bay, at 120 m. altitude, on Aneityum island in the New Hebrides, collected on February "29, 1929" [a non-existant date; probably March 1], and is described as being a "common white-flowered vine growing to the tops of rainforest trees".

Vernacular names reported for *F. lehuntei* are "ngakawa", "wa korovundi", "wakorovundi", and "wa vatu".

Guillaumin (1932) comments that "I believe that on account of the calyx and ovary, notwithstanding the fact that the scarcely exserted stamens are inserted at the middle and not at the mouth of the corolla-tube, this species should be referred to the genus *Faradaya* of New Guinea which extends to the Samoa Islands, Queensland and Borneo, but does not seem to occur in the Moluccas and in Malaysia."

The variety *puberulenta* is based on *A. C. Smith 5799* from the edge of a forest, at 870--970 m. altitude, between Mount Tomanivi and Nesonggora, on the northern portion of the Raivainatuku Plateau, Naitasiri, Viti Levu, collected between August 21 and September 18, 1947, and deposited in the Britton Herbarium at the New York Botanical Garden.

Material of *Faradaya lehuntei* has been misidentified and distributed in some herbaria as *F. amicorum* (Seem.) Seem., *F. ovalifolia* (A. Gray) Seem., *F. vitiensis* Seem., *Clerodendron amicorum* Seem., and even *C. cubense* Schau.

Citations: NEW HEBRIDES: Aneityum: *Kajewski 813* (Bi, Bz--21011, La, N). FIJI ISLANDS: Kandavu: *A. C. Smith 81* (Bi, Ca--602219, N, S, W--1672847). Matuku: *E. H. Bryan 284* [wood sample 64] (Bi). Moala: *E. H. Bryan 341* [wood sample 92] (Bi). Ngau: *A. C. Smith 7764* (Hk). Ovalau: *A. C. Smith 7388* (Hk). Tailevu: *A. C. Smith 7032* (N). Taveun: *A. C. Smith 8385*(Hk). Vanua Levu: *A. C. Smith 1570* (Bi, N, W--1672723), *1845* (Bi, N, W--1676400). Viti Levu: *O. Degener 16743* [14743] (N, N); *J. W. Gillespie 2670* (Bi); *MacDaniels 1052* (Bi); *A. C. Smith 5799* (Bi, Bi, N), *7016* (Hk), *7032* (Ld), *8746* (W--2191396). TONGAN ISLANDS: Eua: *H. E. Parks 16137* (Ca--297273, N), *16216* (Bi, Ca--297094). CULTIVATED: Java: *Herb. Tjibodas P.2* (Bz--26490).

FARADAYA LEHUNTEI var. *DEGENERI* (Mold.) Mold., comb. nov.

Synonymy: *Faradaya neo-ebudica* var. *degeneri* Mold., Phytologia 4: 53. 1952.

Bibliography: Mold., Phytologia 4: 53. 1952; Mold., Résumé 206 & 455; Mold., Fifth Summ. 1: 343 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 333 & 547. 1980.

This variety differs from the typical form of the species in having its peduncles, inflorescence-branches, pedicels, and calyx completely glabrous and its leaf-blades more regularly narrow-elliptic.

The variety is based on *Degener & Ordonez 13762* from a forest, at 30--80 m. altitude, at the Suva Pumping Station, in Naitasiri province, Viti Levu, Fiji Islands, collected (in flower) on December 15, 1940, and deposited in the Britton Herbarium at the New York Botanical Garden. Thus far it is known only from the original collection. It was originally distributed as *F. vitiensis* Seem.

Citations: FIJI ISLANDS: Viti Levu: *Degener & Ordonez 13762* (A--isotype, N--type, N--isotype).

FARADAYA MAGNILOBA Wernham in Ridl., Trans. Linn. Soc. Lond. Bot. 9: 136. 1916.

Bibliography: Wernham in Ridl., Trans. Linn. Soc. Lond. Bot. 9: 136. 1916; H. J. Lam, Verbenac. Malay. Arch. 228--230 & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71. 1921; Fedde & Schust., Justs Bot. Jahresber. 44: 254. 1922; A. W. Hill, Ind. Kew. Suppl. 6: 85. 1926; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Mold., Résumé 201 & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 326 & 547. 1980.

A glabrous climbing shrub; branchlets terete, striate, glabrous; leaves decussate-opposite; petioles 3--4 cm. long, often twisted; leaf-blades firmly chartaceous, elliptic, about 18 cm. long, 8 cm. wide, apically very shortly and acutely acuminate, basally obtuse, marginally entire; secondaries about 6 pairs, prominulent beneath; flowers large; calyx 2-parted almost to the base, the lobes 2--5 cm. long, scaphiform, apically very acutely acuminate; corolla white, glabrous, its tube cylindric, antrorsely infundibular, 3.5--4 cm. long, basally narrowed, the lobes very large, oblong, 5 cm.

long, each bifid to the middle; filaments very long-exserted, 14 or more cm. in length, basally swollen and hairy, otherwise glabrous; anthers 4--5 mm. long, the thecae basally free; ovary minute, externally sparsely yellow-hairy; fruit subpyriform.

This species is based on an unnumbered Klass [Wollaston Expedition] collection from Camps I to III, at 2000--2500 feet altitude, in West Irian. Thus far it is known only from the original collection. Lam (1919) erroneously dates the original publication as "1906". Ridley (1916) notes that the species is "Distinct in the large flowers and bilobed corolla-segments".

FARADAYA MATTHEWSII Merr., Journ. Roy. Asiat. Soc. Straits Br. 76: 115--116. 1917.

Bibliography: E. D. Merr., Journ. Roy. Asiat. Soc. Straits Br. 76: 115--116. 1917; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71. 1921; E. D. Merr., Bibl. Enum. Born. Pl. 515. 1921; A. W. Hill, Ind. Kew. Suppl. 6: 85. 1926; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1927; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 65 & 92 (1942) and ed. 2, 145 & 185. 1949; Mold., Résumé Suppl. 3: 24. 1962; Mold., Fifth Summ. 1: 324 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 315 & 547. 1980.

A scandent shrub; stems to about 2.5 cm. in diameter, glabrous; branches terete, subolivaceous, about 5 mm. in diameter, smooth, glabrous; leaves decussate-opposite; petioles 3.5--5 cm. long, glabrous; leaf-blades chartaceous to subcoriaceous, ovate to oblong-ovate, to 22 cm. long and 12 cm. wide, olivaceous and shiny on both surfaces or medium-green and glossy above, pale-green and dull beneath, apically conspicuously acuminate (the acumen itself stout and blunt), marginally entire, basally broadly rounded or rarely subcordate, glabrous on both surfaces, the lower surface with 2 or 3 prominent, brownish, discoid glands on each side of the midrib; secondaries 5 or 6, prominent beneath, curvate, anastomosing; veinlet reticulation loose, prominent beneath; inflorescence terminal, cymose, about 15 cm. long, somewhat puberulent, sometimes with a pair of greatly reduced leaves; bracts linear or filiform, about 5 mm. long; bracteoles minute; pedicels to 1 cm. long, very densely hirsutulous; flowers tetramerous, to 6.5 cm. long overall; calyx closed in bud, lanceolate, 2--2.5 cm. long, inflated, apically rostrate-acuminate, externally very slightly puberulent to very densely hirsutulous and with a few, large, scattered, brown, discoid glands, during anthesis split nearly to the base into 2 lanceolate, valvate, apically acuminate lobes, each up to 8 mm. wide; corolla white, narrowly infundibular, yellow in the throat, its tube about 4 cm. long, basally 3 mm. in diameter, somewhat ampliate for the upper 1 cm., the lobes 4, imbricate, obovate, 1.5--2 cm. long, to 2.5 cm. wide, apically broadly rounded, basally narrowed; stamens 4, equal or subequal, inserted about 2 cm. above the base of the corolla-tube; filaments 3.5 cm. long, somewhat exserted, basally hirsute, apically glabrous; anthers oblong, 4 mm. long, versatile; style filiform, 6.5 cm. long; stigma-lobes 2, short; ovary ovoid, 3 mm. wide, externally somewhat

cinereous-pubescent with short stiff hairs, at first 8-lobed, later 4-lobed, 1-celled, with 2 parietal placentae, each placenta bearing 2 ovules.

This species is based on *Villamil 253* from ravines, at about 12 m. altitude, at Sandakan, Sabah, deposited in the herbarium of the Philippine Bureau of Science, fortunately photographed before its destruction in World War II. Merrill (1917) says "This is the first representative of the genus to be found in the Sunda Islands, several species being known from New Guinea, one from north-eastern Australia, and several from Polynesia. The present species is dedicated to Mr. D. M. Matthews, Conservator of Forests, British North Borneo, and differs from the genus as described in its distinctly 1-celled ovaries, and in its equal or subequal, not didynamous stamens. It is, however, in all essential characters a typical *Faradaya*."

By some botanists this species is reduced to the synonym of *F. papuana* Scheff. which has entirely glabrous inflorescences and for a time I tended to agree with this disposition of it, but on seeing more material I now feel that there are definitely two separate taxa involved.

Collectors have encountered *F. matthewsii* in open places in ravines and along forested roadsides in cacao plantations, at 12 m. altitude, in anthesis in June.

The *Holttum 25116,* distributed as *F. matthewsii,* actually is *Gmelina uniflora* Stapf.

Citations: GREATER SUNDA ISLANDS: Sabah: *Sinclair, Tassim, & Sisiron 9262* (B, Ld, Mu), *9263* (Ld--photo, N--photo, W--2946376); *Villamil 253* [5] (Bz--21023--isotype, Ld--photo of type, N--photo of type, Ph--type).

FARADAYA NERVOSA H. J. Lam, Verbenac. Malay. Arch. 232--233. 1919.

Bibliography: H. J. Lam, Verbenac. Malay. Arch. 229, 232--233, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71, 72, 111, & xi. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94. 1924;A. W. Hill, Ind. Kew. Suppl. 6: 85. 1926; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1927; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Mold., Resumé 201 & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 326 & 547. 1980.

A large tree, to 30 m. tall; petioles 1.5--2.5 cm. long; leaf-blades coriaceous, elliptic-oblong, 13.5--19 cm. long, 6.5--8.5 cm. wide, apically obtusely acuminate, marginally entire, basally subacute, glabrous above, glabrous beneath except for the puberulent venation, some of which is covered by stout hairs, the axils glandless; secondaries 12--15 per side; flowering inflorescence not known, but the corolla white, glabrous, its tube short, cylindric, about 1.7 cm. long, the lobes 1.5--2 cm. long, apically broadly rounded, sometimes bilobed; stamens 4, inserted in the throat of the corolla-tube; filaments 4--5 cm. long, glabrous; style filiform; stigma subulate; ovary not known; fruiting-calyx

bilobed to the base, the lobes apically acuminately bifid, externally minutely puberulent, covered by large glands.

This poorly known species is based on *Lauterbach 2822* from the Bismarck Plain, at 150 m. altitude, New Guinea, collected on September 9, 1896, and probably deposited in the Leiden herbarium. The detached flowers were found lying loose on the soil beneath the tree. Lam (1919) comments that "Our species, though based upon an incomplete specimen, is well distinguished by its many-nerved leaves, and shows an affinity with *F. dimorpha,* which, however, has only 5--7 pairs of nerves, and possesses glands in the axils of its lower nerves. Moreover, it has very large fruits."

Thus far the species is known, at least to me, only from the original collection.

FARADAYA OVALIFOLIA (A. Gray) Seem., Journ. Bot. Lond. 3: 258. 1865.

Synonymy: *Clerodendron (Tetrathyranthus) ovalifolium* A. Gray, Proc. Amer. Acad. Arts 6: 50. 1862. *Clerodendron arthurgordoni* Horne, Year Fiji 259, nom. nud. 1881. *Clerodendron gordoni* J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 370. 1883. *Faradaya ovalifolium* (A. Gray) Seem. ex Mold., Alph. List Inv. Names 19, sphalm. 1942. *Clerodendrum gordoni* J. G. Baker ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68 & 90. 1942. *Clerodondron ovalifolia* Gray apud Parham, Fiji Nat. Pl. 124. 1943. *Faradaya ovalifolia* var. *ovalifolia* [Seem.] apud Parham, Pl. Fiji Isls, ed. 1, 213. 1964. *Clerodendrum ovalifolium* (A. Juss.) Bakh. ex Beard, Descrip. Cat. W. Austr. Pl., ed. 1, 91. 1965. *Faradaya ovalifolia* "var. *ovalifolia*; J. W. Parham" apud A. C. Sm., Allertonia 1: 413, in syn. 1978.

Bibliography: A. Gray, Proc. Am. Acad. Arts 6: 50. 1862; Seem., Journ. Bot. Lond. 3: 257 & 258. 1865; Seem., Fl. Vit. 189 (1866) and 441. 1873; Horne, Year Fiji 259 & 262. 1881; J. G. Baker, Journ. Linn. Soc. Lond. Bot. 20: 270. 1883; F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 48. 1886; Drake del Castillo, Illust. Fl. Ins. Mar. Pac. 261. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561 & 946. 1893; Gillespie, Bull. B. P. Bishop Mus. 83: 29--30 & 69, fig. 37. 1931; Worsdell, Ind. Lond. Suppl. 1: 402. 1941; Mold., Alph. List Inv. Names 16 & 19. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68, 69, 90, & 92. 1942; Parham, Fiji Nat. Pl. 124. 1943; Mold., Phytologia 2: 103. 1944; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561 & 946. 1946; H. N. & A. L. Mold., Pl. Life 2: 61. 1948; Mold., Known Geog. Distrib. Verbenac., ed. 2, 151, 181, & 185. 1949; Mold., Resume 206, 260, 267, 294, 450, & 455. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561 & 946. 1960; Parham, Pl. Fiji, ed. 1, 213. 1964; Beard, Descrip. Cat. W. Austral. Pl., ed. 1, 91. 1965; Mold. in Menninger, Flow. Vines 334. 1970; Mold., Fifth Summ. 1: 343 & 452 (1971) and 2: 518 & 878. 1971; Parham, Pl. Fiji, ed. 2, 298. 1972; A. C. Sm., Allertonia 1: 413. 1978; F. Muell., Descr. Notes Papuan Pl., imp. 2, 8: 48. 1979; Mold., Phytol. Mem. 2: 333 & 547. 1980; Mold., Phytologia 51: 388, 389, & 395. 1982.

Illustrations: Gillespie, Bull. B. P. Bishop Mus. 83: 69, fig.

37. 1931.

A robust scandent shrub or liana, climbing to the tops of the tallest trees, to 15 m. long, or occasionally "a small tree" [*Meebold 16486*]; stems to 3 cm. in diameter, the younger parts thickly furfuraceous, glabrescent in age; branchlets terete; sap not milky; leaves large, decussate-opposite, furfuraceous when young, glabrous when mature; petioles stout, 1.2--2.5 cm. long; leaf-blades thickly chartaceous, broadly elliptic to obovate, 9--22 cm. long, 6--10 cm. wide, apically obtusely acuminate, basally narrowed and acute but not decurrent, green above, somewhat copper-colored beneath; secondaries 5--8 per side, prominulous above, very prominent beneath, arcuate-ascending; veinlet reticulation prominent, numerous, forming straight-sided "islets"; inflorescence lateral and (more often) terminal, to 15 cm. long, composed of about 8 main branches, 20- or more flowered; pedicels 6--20 mm. long, furfuraceous; bracts and bractlets foliaceous, furfuraceous, 6--11 mm. long, punctate; flowers relatively small, borne in dense clusters, odorless; calyx 3- or 4-lobed, the lobes subequal, about 4 mm. long and wide, apically acute and subapiculate, spreading; corolla hypocrateriform, varying from pure-white to creamy-white, to 8 cm. long, externally glabrous, internally minutely puberulent, the tube basally about 2 mm. wide, apically slightly ampliate, the lobes subrotund, about 1 cm. long and wide; filaments slender, pure-white, 3--4 cm. long, inserted about 2 cm. below the mouth of the corolla-tube, basally pubescent; anthers oblong, about 3 mm. long; style very slender, pure-white, exserted about 1 cm.; stigma shortly 2-lobed; fruit with usually 1 or 2 not developing, mostly in pairs, 4-parted at maturity, the drupes ellipsoid, oblique, 4--6 cm. long, 2 cm. wide, yellow or orange to orange-red or red with white dots, shiny, soft, the exocarp shriveled when dry, the endocarp very hard, 1-furrowed, about 1 mm. thick, 1-seeded; seeds coriaceous when dry, oblong, about 3.2 cm. long, the cotyledons filling the entire seed, plano-convex, apically truncate, conspicuously pinnate-veined within, the veins deeply and acutely canaliculate.

Gray's (1862) description of the species is short: "foliis ovalibus obtuse acuminatulis integerrimis basi subangulatis (cum petiolo ramisque teretibus) glabris, cymis plurifloris corymboso-paniculatis canescenti-puberulis; corolla hypocraterimorpha, tubo (ultra pollicari) calycem obtuse 4-lobum pluries excedentibus, lobis 4 rotundis inter se aequalibus stamina adaequantibus... Differs from (*C. amicorum*) somewhat in the foliage, but strikingly in the shape of the corolla." The type was collected by Wilkes on the United States Exploring Expedition in 1840 somewhere in the Fiji Islands and is deposited as sheet no. 75176 in the United States National Herbarium at Washington.

Collectors have found this plant growing in light or dense, open or wet forests, rainforests, secondary forests, logged-over areas, and thick low bush country, at 10--1200 m. altitude, in anthesis from February to August, and in fruit from June to August and October.

Smith (1978) asserts that *F. ovalifolia* "appears to be endemic to Fiji, where it is a frequent high-climbing liana with fragrant white flowers, occurring at elevations from near sea level to about 1,150 m. I have seen about 70 collections from the islands of Viti Levu, Kandavu, Ovalau, Vanua Levu, and Matuku."

Gillespie (1931) cites *Gillespie 2181, 2182, 3166, 3513, & 4530, Parks 20036, 20386, & 20702,* and *Setchell & Parks 15063* from Viti Levu. He comments that this is "A species difficult to distinguish by the leaves from *Faradaya vitiensis* Seemann, in which they are thicker, coriaceous, and more inclined to be attenuate at the base, but easily recognized by the shape of the corollas, in *F. ovalifolia* being salver-shaped, and in *F. vitiensis* infundibuliform, the tube rather broad."

Vernacular names reported for *F. ovalifolia* are "ngakawa", "wakarovungi", "wa koro vundi", "wakoruvudi", "wakorovundi", "wa korovundi", "wa kuru vundi:. "wa vatu", "wa vundi", "wavudi" and "wavundi".

Pigeons and doves are said to be fond of eating the fruit on this plant. Small wood samples accompany *Gillespie 3166 & 3513* and *St. John 18308.*

Material has been misidentified and distributed in some herbaria as *Faradaya vitiensis* Seemann and *Fagraea berteriana* A. Gray. On the other hand, the *Bryan 284, Degener 16743,* and *Smith 81, 1052, 1570, & 1845,* distributed as *F. ovalifolia,* actually are *F. lehuntei* (Horne) A. C. Sm.

Citations: FIJI ISLANDS: Ovalau: *J. W. Gillespie 4530* (Bi, Ca--448962, Du--245264); *H. E. Parks 20439* (Bi); *A. C. Smith 7523* (Hk, Ld, W--2190428). Viti Levu: *E. H. Bryan 205* (W--1967665); *O. Degener 14621* (A, N, N), *15333* (B, Bi, N, N, S, Vi); *J. W. Gillespie 2181* (Bi, Ca--447645), *2182* (Bi, Bz--21019, Ca--447644), *2616* (Bi), *2979* (Bi, Ca--447943), *3166* [Bish. Mus. wood sample 1736] (Bi, Ca--448058), *3290* (Bi, Ca--448218, W); *Lai s.n.* [Macuata, Herb. Dept. Agr. 16685] (N); *MacDaniels 483* (Ba); *Meebold 16486* (Bi, Mu, Mu); *H. E. Parks 20036* (Ba, Bi, Bi, Ca--447347, N, W--2192222), *20386* (Bi, Ca--447403, W--2192293), *20439* (Ca--447375, W--2192303), *20702* (Ca--447604); *Pillay & Vualili L.8259a* (W--2624354); *Reay 19* (Ca--7922, W--1863496); *St. John 18274* (Kl--9676, W--2185850), *18308* (Kl--9689, W--2185866); *Setchell & Parks 15018* (Ca--289612), *15062* (Bi, Ca--469143, Ca--948547, W--1628918), *15063* (Ca--289443); *A. C. Smith 4077* (Bi, N, N, S), *4636* (Bi, N, N, S), *4752* (Bi, N, N, S); *J. Thurston s.n.* (Er, Mb); *Wilkes, U. S. Expl. Exped. s.n.* [Feejee Islands] (Bi--photo of type, G--isotype, T--isotype, W--75176--type).

FARADAYA OVALIFOLIA var. *GLABRA* Mold., Phytologia 4: 53--54. 1952.

Bibliography: Mold., Phytologia 4: 53--54. 1952; Mold., Résumé 206 & 455. 1959; Mold., Fifth Summ. 1: 348 (1971) and 2: 878. 1971; A. C. Sm., Allertonia 1: 413. 1978; Mold., Phytol. Mem. 2: 233 & 547. 1980.

This variety differs from the typical form of the species in having its peduncles, inflorescence-branches, pedicels, and calyx completely glabrous, the corolla-tube heavy-textured, about 6 cm.

long and 3--4 mm. wide, the corolla-limb 2.5 cm. wide, and the leaf-blades more narrowly elliptic and firmer in texture.

This variety is based on *Gillespie 3513* from the vicinity of Nasinu, at an altitude of 150 m., 9 miles from Suva, in Naitasiri province, Viti Levu, collected on October 24, 1927, and deposited in the Britton Herbarium at the New York Botanical Garden.

Collectors describe the plant as a tree, 8 m. tall, the trunk to 30 cm. in diameter, and the mature fruit yellow and orange. They have found it growing in dense forests to an altitude of 1090 m., in flower in October, and in fruit in December. Smith (1978) reduces this variety to synonymy under typical *F. ovalifolia*.

Material has been misidentified and distributed in some herbaria not only as typical *F. ovalifolia* (A. Gray) Seem., but also as *F. vitiensis* Seem.

Citations: FIJI ISLANDS: Viti Levu: *Gillespie 3513* [Bish. Mus. wood sample 1822] (B--isotype, Bi--isotype, Ca--448325--isotype, N--type); *Greenwood 966* (Bi, Ca--2143, N).

FARADAYA PAPUANA Scheff., Ann. Jard. Bot. Buitenz. 1: 42--43. 1876.

Synonymy: *Faradaija papuana* Wigman, Teysmannia 1: 489. 1890. *Faradaya splendida* K. Schum. ex K. Schum. & Lauterb., Nachtr. Fl. Deutsch. Schutzgeb. Südsee 370. 1905 [not *F. splendida* F. Muell., 1865]. *Faradaya excellens* K. Schum. ex Mold., Phytologia 34: 274, in syn. 1976. *Clerodendron fissicalyx* Scheff. ex Mold., Phytol. Mem. 2: 385, in syn. 1980.

Bibliography: F. Muell., Descr. Notes Papuan Pl., imp. 1, 1: 91 & 113. 1875; Scheff., Ann. Jard. Bot. Buitenz. 1: 42--43. 1876; F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 47. 1886; K. Schum. & Hollr., Fl. Kais. Wilhelmsl. 122. 1889; Wigman, Teysmannia 1: 489. 1890; Hook. f., Curtis, Bot. Mag. 117: pl. 7187. 1891;Scheff., Ann. Jard. Bot. Buitenz. 10: pl. 7, fig. 2. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 946. 1893; Warb., Engl. Bot. Jahrb. 18: 209. 1894; K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee 525. 1900; K. Schum. & Lauterb., Nachtr. Fl. Deutsch. Schutzgeb. Südsee 370. 1905; Nieuwenhuis, Ann. Jard. Bot. Buitenz. 21: 259, pl. 26, fig. 56 & 58. 1907; Pulle in Lorentz, Nova Guinea, ser. 1, 8 (2): 686. 1914; H. J. Lam, Verbenac. Malay. Arch. 234, 236, & 365. 1919; Pynaert, Bull. Agric. Cong. Belg. 11: 213, fig. 43. 1920; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71. 1921; Stapf, Ind. Lond. 3: 173. 1930; Mold., Suppl. List Inv. Names 3. 1941; Mold., Alph. List Inv. Names 24. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 946. 1946; Mold., Résumé 192, 201, 203, 209, 218, & 455. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 946. 1960; Burkill, Dict. Econ. Prod. Malay Penins. 1: 1013. 1966; Corner & Watanabe, Illust. Guide Trop. Pl. 760. 1969; Mold., Fifth Summ. 1: 324, 336, 338, 346, & 363 (1971) and 2: 878. 1971; Hegnauer, Chemotax. Pfl. 6 [Chem. Reihe 21]: 676. 1973; Mold., Phytologia 28: 449 (1974) and 34: 274. 1976; F. Muell., Descr. Notes Papuan Pl., imp. 2, 1: 91 & 113 (1979) and imp. 2, 8: 47. 1979; Mold., Phytol. Mem. 2: 315, 326, 328, 353, 385, 425, & 547. 1980; Mold., Phytologia 51: 392. 1982.

Illustrations: Scheff., Ann. Jard. Bot. Buitenz. 10: pl. 7, fig. 2. 1891;Nieuwenhuis, Ann. Jard. Bot. Buitenz. 21: pl. 26, fig. 56 & 58. 1907; Pynaert, Bull. Agric. Cong. Belg. 11: 213, fig. 43. 1920.

A tall-climbing liana, to 25 m. long, a large rambling shrub, or a tree to 5 m. tall; stems to 2 cm. in diameter; branchlets terete, the youngest ones short-pubescent; leaves decussate-opposite; petioles terete, 2.5--5 cm. long, somewhat twisted; leaf-blades elliptic-ovate or broadly ovate, 15--23 cm. long, 7--12 cm. wide, glossy or dull dark-green above, green beneath, apically obtuse, marginally entire, basally acute or obtuse to truncate or (on wider leaves) subcordate, glabrous on both surfaces when mature, with 4--6 orbicular glands near the larger veins beneath; secondaries 6--8 pairs, arcuate-ascending; veinlet reticulation dense and prominent beneath; inflorescence-branches densely puberulent or short-pubescent; cymes axillary and terminal, pedunculate, densely many-flowered, crowded, repeatedly trichotomous, much shorter than the subtending leaves; peduncles variable in length, long or short; pedicels very short, to 3 mm. long; bractlets small, subulate; flower-buds white or cream-color; flowers large, very showy, faintly sweet-scented; calyx large, usually about 1.8 cm. long, often unilaterally split during anthesis, later deeply 2-parted, externally bearing numerous glands; corolla white or greenish, its tube infundibular, almost 4 cm. long, ampliate at the throat, the limb spreading, the lobes 4 or rarely 5, subequal, about 1.8 cm. long, to 5 mm. wide, apically rounded to emarginate or bilobed; stamens 4 or rarely 5, inserted slightly above the base of the corolla-tube, exserted; filaments basally swollen and densely lanate, glabrous above, slender, almost isometrous; anthers versatile, 2-locular, the thecae basally divergent; ovary densely lanate, rather deeply 4-lobed, basally 1-locular, apically 4-locular; style equaling the stamens; stigma bifid, the branches short and equal; fruiting-calyx slightly incrassate; drupes 4 (or often only 1 by abortion), ellipsoid, at first green, later creamy-white, about 6.5 cm. long and 4 cm. wide, externally glabrous, apically obtuse, the pericarp fleshy, the endocarp spongy; seeds large, exalbuminous; cotyledons large, plicate; radicle inferior.

This is a species apparently endemic to New Guinea, but sometimes cultivated elsewhere for ornament. It is based on *Teijsmann 6773* from West Irian. The synonymous *Clerodendron fissicalyx* is based on *Teijsmann 6750* from Manoiman, while *Faradaya excellens* is founded on *Lauterbach 528* from West Irian.

Faradaya matthewsii Merr., of Sabah, is sometimes regarded as a synonym of *F. papuana,* which, in turn, is sometimes united with *F. splendida* F. Muell., but *F. papuana* is distinguished easily by its densely puberulent young branchlets and inflorescence-branches. It can usually be distinguished from *F. splendida* as follows:

Leaf-blades mostly elliptic, apically obtuse, basally acute to obtuse, inflorescences crowded; corolla-lobes only to 5 mm. wide; pedicels to 3 mm. long.....*F. papuana*.

Leaf-blades mostly ovate, apically acute, basally truncate-rounded; inflorescences loose; corolla-lobes to 15 mm. wide; pedicels to

10 mm. long.....*F. splendida*.

Collectors have found *Faradaya papuana* growing in secondary rainforests and on terraces in lowland rainforests, at 1--500 m. altitude, in anthesis from May to August and October, in fruit in November. Kanehira & Hatusima refer to it as "scandent in strand forest, 6 m. tall." The corollas are described as having been "white" on *Brass 1631, Kanehira & Hatusima 13072,* and *Pleyte 645* and "greenish" on *Lauterbach 2238*. The axillary peduncles are quite long on *Streimann 34086* and very short (and the leaves insect-galled) on *Lauterbach 528* (the so-called *F. excellens* form). *Lauterbach 2528* is said to have come from a "5 m. tree", but perhaps it was just climbing on the tree.

Nieuwenhuis (1907) notes that "Auch bei dieser Spezies tragen sowohl die Laubblätter als die Kelche Nektarien.....Die Zahl der Kelchdrüsen wechselt zwischen 6--20; sie sind bereits makroskopisch als rundliche Flecken erkennbar. Auf dem Längsschnitt sieht man das sezernierende Gewebe, eine aus hohen Palisadenzellen bestehende Schicht. Ganz gleich gebaute Drüsen findet man zerstreut auf der Unterseite der ledrigen Blätter, besonders am Grunde derselben, aber auch in der Nähe des Mittelnervs. Eine Sekretion findet nur bei den allerjüngsten und den eben entfalteten Blättern statt. Auch die Kelchdrüsen sexernieren weit stärker an den Knospen als an den Blüten. Die endständigen Infloreszenzen tragen weisse Blüten; diese fruktifizieren. Die Knospen und allerjüngsten Blätter wimmeln zu jeder Tageszeit von Ameisen. Trotzdem werden die Blüten in hohem Masse perforiert; von 188 abgefallenen Blüten waren nur 2 nicht perforiert. Überdies haben die Blüten noch von einem Käfer (*Sphaerometopa*) zu leiden.....Ihre Nektarien sind bereits von Burck erwähnt worden. Näheres im speziellen Kapitel über Blütenperforation."

The *White 1293,* misidentified as *F. papuana* in some herbaria, actually represents *F. splendida* F. Muell.

Citations: NEW GUINEA: Papua: *Bäuerlen 326* (Mb), *484* (Mb); *Brass 1631* (Bz--21035); *Carr 14951* (N); *Streimann NGF.34086* (Mb). Territory of New Guinea: *Clemens 1719* (Le--937.351, N); *Hollrung 740* (Bz--21025). West Irian: *Aet 465* (Bz--72961), *512* (Bz--72959); *Herb. Lugd.-bat. 926.340-115* (Le); *Kanehira & Hatusima 13072* (Bz--21028, N); *Kostermans 2820* (Bz--26603); *Lauterbach 528* (Mu--4481); *Pleyte 645* (Bz--72672); *Römer 284* (Bz--25570, Le--926.340-94); *Teijsmann 6750* (Mb), *6773* (Bz--21029--isotype, Bz--21032--isotype, Bz--21033--isotype, Ld--photo of isotype, Le--922.64-113--isotype, Mb--isotype, N--isotype, N--photo of isotype); *A. C. T. Thomsen 813* (Bz--21027, Le--922,297-1002); *Versteeg 1075* (Bz--21024, Bz--25571, Le--910.205-2237, It--13812). CULTIVATED: India: *Gage 13289* (Bz--21041). Java: *Herb. Hort. Bot. Bogor. XV.F.9 in part* (Bz--26305, N), *XV.F.9a* (Bz--21036). Sri Lanka: *Collector undetermined s.n.* [Royal Botanic Garden, February 1887] (Pd).

FARADAYA PARVIFLORA Warb., Engl. Bot. Jahrb. 18: 208. 1894.

Synonymy: *Faradaya parviflora* var. *typica* H. J. Lam, Verbenac. Malay. Arch. 232. 1919.

Bibliography: Warb., Engl. Bot. Jahrb. 18: 208. 1894; K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee 524. 1900; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 170. 1902; Pulle in Lorentz, Nova Guinea, ser. 1, 8 (2): 686. 1914; H. J. Lam, Verbenac. Malay. Arch. 229, 231--232, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71 & 72. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94. 1924; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1929; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 170. 1941; Mold., Alph. List Inv. Names 24. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 170. 1959; Mold., Resumé 201, 294, & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 519 & 878. 1971; Hartley, Dunstone, Johns, & Lamberton, Lloydia 36: 293. 1973; Farnsworth, Pharmacog. Titles 9 (1): xi. 1974; Mold., Phytologia 31: 398. 1975; Mold., Phytol. Mem. 2: 326 & 547. 1980; Mold., Phytologia 51: 397 & 398. 1982.

A woody, climbing shrub; branchlets 3-ribbed toward the top, sparsely and minutely hairy, eventually glabrescent; leaves ternate; petioles 2--3 cm. long, sparsely and minutely hairy, soon glabrescent; leaf-blades chartaceous, ovate, 10--14 cm. long, about 8 cm. wide, apically obtusely acuminate, marginally entire, basally cordate, glabrous and shiny above and also (except for the veinlet reticulation) beneath; secondaries 4--6 pairs; 3-pli-nerved at the base of the blade, the lower pair reaching the middle of the leaf and with some glands in and below the axils; veinlet reticulation minutely pubescent beneath; cymes axillary, sparsely and minutely hairy, forming a large terminal inflorescence; bracts foliaceous, narrow, 2--4 cm. long; peduncles 12--16 cm. long; cyme-branches 2--4 cm. long; pedicels 0.5 cm. long; calyx glabrous, 1 cm long, 2- or 3-lobed to 1/3 or 1/2 its length, the lobes apically obtuse; corolla white, its tube 5--7 mm. long, glabrous, the lobes 1.5--2 cm. long, marginally sometimes fimbriate; stamens inserted in the throat of the corolla-tube, white, 5.5 cm. long; style slender, 5.5 cm. long; stigma shortly bifid; ovary 4-furrowed, externally white-hairy.

This species is based on *Ledermann 13021* from mountainous woods at Felsspitze near Kaiser-August river, New Guinea, at 1400--1500 m. altitude, collected on August 20, 1913. Other collectors have also encountered it in woods and disturbed lowland rainforests, flowering in August.

Schumann & Lauterbach (1900) cite *Hellwig 164* & *172*, while Hartley and his associates (1973) cite *nos. 10546* & *12283* from the Territory of New Guinea, where the species is apparently endemic.

FARADAYA PARVIFLORA var. *ANGUSTIFOLIA* H. J. Lam, Verbenac. Malay. Arch. 232. 1919.

Synonymy: *Faradaya parviflora* var. *angustifolia* "J. H. Lam" apud Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245, sphalm. 1927. *Faradaya parviflora* var. *anaustifolia* J. H. Lam apud Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245, sphalm. 1927.

Bibliography: H. J. Lam, Verbenac. Malay. Arch. 232 & 234. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 72.

1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94. 1924; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1927; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Mold., Résumé 201 & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; Mold., Phytologia 31: 398. 1975; Mold., Phytol. Mem. 2: 326, 405, & 547. 1980.

This variety differs from the typical form of the species in having the leaf-blades 12--15 cm. long, only 3.5--6.5 cm. wide, apically acute, and basally cuneate.

It is based on *Ledermann 13022*, also from wood on mountains at what was then called Felsspitze in the Sepik Mountains near the Kaiser-August river, in northeastern New Guinea, at 1400--1500 m. altitude, collected on August 20, 1913. Warburg (1924) cites both *Ledermann 13021* and *13022* as this variety, but, according to Lam (1919) the former collection is the type collection of the typical form and it is the latter collection which was designated by him as the type of the variety.

FARADAYA PEEKELII (Markgraf) Mold., Résumé 204, 268, & 455, hyponym. 1959; comb. nov.

Synonymy: *Clerodendron peekelii* Markgraf, Notizbl. Bot. Gart. Berl. 10: 121. 1927.

Bibliography: Markgraf, Notizbl. Bot. Gart. Berl. 10: 121. 1927; A. W. Hill, Ind. Kew. Suppl. 8: 54. 1933; Mold., Résumé 204, 208, & 455. 1959; Mold., Fifth Summ. 1: 333 & 452 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 329 & 547. 1980.

A scandent, glabrous shrub; leaves decussate-opposite; petioles to 7 cm. long, glabrous; leaf-blades coriaceous, broadly ovate or orbicular, to 19 cm. long and 15 cm. wide, apically short-acuminate, marginally entire, basally rounded; glabrous on both surfaces, the venation all equally conspicuous; inflorescence axillary and terminal, cymose, many-flowered, basally with smaller ovate-lanceolate leaves partially connate with the peduncle, otherwise minutely bracteolate; flowers glabrous; calyx cyathiform, coriaceous, to 8 mm. long, 2- or 3-fid to beyond the middle, the lobes irregular and apically obtuse; corolla white, its tube to 12 mm. long and 2 mm. wide, the lobes 4, cuneiform, as long as the tube, apically obtuse, unequal; stamens 4, irregularly didynamous; filaments to 4 cm. long, glabrous; anthers ellipsoid, split to the middle; style filiform, 4 cm. long, glabrous; ovary obovate, 3 mm. long, 2 mm. wide, externally pubescent.

This species is based on *Peekel 969* from bush at Vunapope, Takubar, New Ireland, in the Bismark Archipelago. Marcgraf (1927) comments that "Die Art gehört in die kleine Sektion *Tridens* H. J. Lam [of *Clerodendrum*] und weist einige Ähnlichkeit mit dem ebenfalls papuasischen *Cl. magnificum* Warb. auf, bei dem wie hier die Zahl der Kelchzipfel zwischen 2 und 3 schwankt."

In a personal communication to Dr. Lam from Dr. Van Steenis, dated December 5, 1938, he states that "Hierbij een ex. verzameld door Peekel (*no. 145*) op Bismarck Arch. door hem als *Clerodendron Peekelii* Markgr. ingezonden. Het is echter een *Faradaya*: groote bladvoerklieren, liaan! Er bestaat de mogelijkheid, dat Peekel zich

vergist heeft in zijn herinnering, van het nummer, wat Markgraf beschreven heeft in Notizbl. Berl.-Dahlem 10, 1927, p. 121. Hij geeft haast geen maten op vermeldt niet dat - zooals in dit nummer - de bloenkroonbuis in de keel sterk verwijd is, enz. terwijl Markgraf opgeeft, dat het een klimmende heester zou moeten zijn! Dit kan toch niet voor *Clerodendron*!!?? Het lijkt me daarom wel vrij zeker, dat *Clerodendron Peekelii* een *Faradaya* is!

"Je vermeldt in je diss. *Faradaya nervosa* H. J. L. als een 30 m hooge boom. Volgens je tabel zou deze soort ook geen klieren aan den bladvoet bezitten. Daar de bloemen los van de bladeren zijn verzameld door Lauterbach, lijkt mij vergissing hiet uitgesloten. *Faradaya*'s zijn klimmende heesters, doorgaans echte lianen, geen hooge boomen." While this is certainly in general true, it still remains that numerous collectors have described species of this genus as "trees". In the tropics it is often difficult to be certain how to describe a given plant specimen in the forest.

The lower leaves on *Peekel 145* are basally truncate and very much broader than the others

Citations: BISMARK ARCHIPELAGO: New Ireland: *Peekel 145* (Bz--72905, Bz--72906, N).

FARADAYA POWELLII Seem. ex Powell in Seem., Journ. Bot. 6: 342. 1868,

Synonymy: *Clerodendron powellii* Benth. & Hook. f. ex Drake del Castillo, Illust. Fl. Ins. Mar. Pacif. 261. 1892. *Faradaya savaiiensis* Rech., Denkschr. Akad. Wiss. Wien Math.-Nat. 85: 166. 1910.

Bibliography: Powell in Seem., Journ. Bot. 6: 342 & 384. 1868; Seem., Fl. Vit. 432 & 441. 1873; F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 48. 1886; Drake del Castillo, Illust. Fl. Ins. Mar. Pacif. 261. 1892; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 496. 1906; Rech., Denkschr. Akad. Wiss. Wien Math.-Nat. 85: 166. 1910; Rech., Bot, Ergebn. Sam. Sal.-Inseln 340, pl. 13, fig. B. 1910; Prain, Ind. Kew. Suppl. 4, imp. 1, 90. 1913; H. J. Lam, Verbenac. Malay. Arch. 319 & 365. 1919; Setchell, Carbegie Inst. Wash. Publ. 341: pl. 13. 1924; Setchell, Carnegie Inst. Dept. Marine Biol. 20: pl. 13B. 1924; Wangerin, Justs Bot. Jahresber. 53 (2): 644. 1925; Christophersen, B. P. Bishop Mus. Bull. 128: 193. 1935; A. W. Hill, Ind. Kew. Suppl. 9: 115, 1938; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 496. 1941; Worsdell, Ind. Lond. Suppl. 1: 402. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 69 & 92 (1942) and ed. 2, 151 & 185. 1949; Van Steenis, Act. Bot. Néerl. 4: [477]. 1955; Prain, Ind. Kew. Suppl. 4, imp. 2, 90. 1958; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 496. 1959; Mold., Résumé 207, 268, & 455. 1959; Mold., Résumé Suppl. 3: 32. 1962; Mold., Fifth Summ. 1: 351 & 453 (1971) and 2: 519 & 878. 1971; Farnsworth, Pharmacog. Titles 9 (3): ix. 1974; F. Muell., Descr. Notes Papuan Pl., imp. 2, 8: 48. 1979; Mold., Phytol. Mem. 2: 342 & 547. 1980; Mold., Phytologia 51: 390 & 396. 1982.

Illustrations: Rech., Bot. Ergebn. Sam. Sal.-Inseln pl. 13, fig.

B. 1910; Setchell, Carnegie Inst. Wash. Publ. 341: pl. 13. 1924; Setchell, Carnegie Inst. Wash. Dept. Marine Biol. 20: pl. 13B. 1924.

A large, slender or robust, climbing shrub or vine, sometimes ascending the highest trees, large-flowered, 8 or more m. long, or a tree, 3--4 m. tall [*Christophersen & Hume 2232; Garber 552*]; stems round, except at the flat nodes, ascending, glabrous, the sap not milky; leaves decussate-opposite; leaf-blades coriaceous, ovate-lanceolate, marginally entire, dark-green above, light-green beneath, punctate; in florescence axillary and terminal, paniculate; flowers large, with little or no odor or sweet-scented [depending on time of day?]; calyx inferior, regular, basally green. persistent, coriaceous, apically slightly 4-lobed, the tube and lobes white; corolla white, trumpet-shaped, regular, to 6 cm. long, 4-lobed, the lobes imbricate in bud; stamens 4, inserted in the corolla-tube and alternate with its lobes; filaments downwardly incurved in bud; anthers large, versatile, 4-celled, 2-lobed; style single, awl-shaped, longer than the corolla, arising from the base of the ocary-lobes; ovary borne on a large torus, 4-parted, apically 4-lobed, each part with 1 basal ovule; fruit large, to 12 cm. long and 5 cm. wide, curvate, at first green, later red or bright-red, fleshy, the drupes oblong, somewhat curvate, the epicarp thin and fleshy, the mesocarp bony.

Powell (1868) reports that "pigeons take three or four of these drupes into their gullet at once; hence [the fruits] are called 'mamālupe' (the pigeon's mouthful)".

The species is based on an unnumbered Powell collection from Samoa, where the plant is also called "filitavatio" and "mamagi".

Collectors have found this plant growing along roadsides and trailsides, in rocky soil, in open, wet, secondary, and ridge forests, on densely wooded slopes, in thickets, among secondgrowth, in bush country, on seashores and coasts, and on plateaus, from sealevel to 1700 m. altitude, and flower from June to April, and in fruit in January, March, August, and October. The corollas are uniformly described as "white". Wismer refers to the fruit as a "capsule" and avers that the "flowers and fruit appear simultaneously on the same plant". He refers to the plant as a "tall tree" [*Wismer 53*]. Other collectors also refer to it as a shrub or tree. Garber, however, describes it as a "vine on trees to great height".

Harris encountered the plant "in damp rocky soil under cover of light forest on gently hillside slopes"; Diefenderfer says that it occurs "on lowlands", but Christophersen (1935) reports it "common in the forests at all elevations". Bristol also refers to it as "climbing in forest trees". Its white flowers are used locally for making wedding wreaths

Vernacular names reported for the species are "filitavatio", "fue", "fue vai", "mamagi", "mā mā lupe", "mama lupe", "mamā lupe", and "mamalupe" (meaning "pigeon's mouthful") because native pigeons feed on the fruit.

The original publication of this taxon is sometimes mis-cited as "Journ. Bot. 6: 382. 1888".

Faradaya savaiiensis is based on *Rechinger 3728* from Savaii, deposited in the Vienna herbarium. The synonym, *Clerodendron powellii*, is sometimes cited as having been published in Benth. & Hook. f., Gen. Pl. 2 (2): 1156 (1876), but this is not true.

I suspect that *F. powellii* may be conspecific with *F. amicorum* (Seem.) Seem., and the latter name would have priority. One cotype of *F. amicorum* in the Britton Herbarium exhibits leaves like those of typical *F. powellii*, i.e., not distinctly obovate. Dr. C. G. G. Van Steenis, in a letter to me dated August 27, 1955, is also of this opinion, saying: "By the way, do you think *F. powellii* Seem. ex Powell to be different from *F. amicorum*? I doubt this very much; I think they are conspecific." In his 1955 work he also indicates this same opinion.

Christophersen (1935) cites *Christophersen 781* and *Christophersen & Hume 2173* & *2232* from Savaii, *Garber 552* & *671* from Tau, *Christophersen 990* & *3478*, *Diefenderfer 1*, *12*, & *28*, and *Garber 913* from Tutuila, and *Christophersen 188*, *299*, & *340* and *Wilder 77* from Upolu.

The *Garber 671*, *Herb. A. Gray s.n.*, and *Kuntze 2300*, distributed as *F. powellii*, seem to me to be better regarded as representing *F. amicorum* (Seem.) Seem.

A tentative key for distinguishing *F. powellii* from some of its closest relatives follows:

1. Corolla infundibular.
   2. Leaf-blades membranous; native to the Samoan & Tongan Islands.
      3. Leaf-blades mostly obovate or obovate-elliptic, basally long-attenuate into the petiole.....*F. amicorum*.
      3a. Leaf-blades mostly broadly elliptic, basally mostly only acute.....*F. powellii*.
   2a. Leaf-blades subcoriaceous; native to Fiji and Tongan Islands.
      4. Pedicles glabrous.....*F. lehuntei* var. *degeneri*.
      4a. Pedicels puberulent.....*F. lehuntei*.
1a. Corolla hypocrateriform.
   5. Corolla-tube less than 1.5 cm. long.....*F. salomonensis*.
   5a. Corolla-tube 2.5--8 cm. long.
      6. Pedicels puberulent; corolla-tube to 3.5 cm. long..... *F. ovalifolia*.
      6a. Pedicels glabrous; corolla-tube to 8 cm. long..... *F. ovalifolia* var. *glabra*.

Citations: SAMOAN ISLANDS: Ofu: *Yuncker 9445* (Bi, Dp--29001). Savaii: *Christophersen 781* (B, Bi, Ca--592454, N), *2232* (B, Bi, N); *Christophersen & Hume 2173* (Bi), *2232* (Ca--592218); *Rechinger 3728* (Bi--photo). Tau: *D. W. Garber 552* (Bi, Ca--592221); *W. Harris Lot-2524-Sta.262* (Bi); *Yuncker 9174* (Bi, Dp--29002). Tutuila: *Christophersen 990* (B, Bi, N), *3478* (B, Bi, Bz--21020, Ca--592442, N, W--1655754); *Diefenderfer 1* (Bi), *12* (Bi), *28* (Bi); *D. W. Garber 913* (Bi); *Kuntze s.n.* [Samoa, May 1904] (N); *McKee 2893* (Bi), *2945* (Bi); *Meebold 21356* (Mu); *Seale s.n.* [May 20, 1929] (Gg--176229, N), *s.n.* [May 26, 1929] (Gg--176228); *Setchell 64* (Bi, Ca--215607), *539* (Ca--216018); *Wisner 53* (Bi), *69* (Bi), *128* (Bi); *Yuncker 9301* (Bi, Dp--29003), *9387* (Bi, Dp--29004). Upolu: *Bristol 1961* (W--2675798),

2026 (Kl--10591, W--2675828); *Christophersen 188* (B, Bi, Bz--21021, Ca--592234, N), *299* (Bi, Bz--21022, W--1655717), *340* (Bi); *Whistler A.293* (W--2746147), *W.783* (W--2738660); *Wilder 77* (Bi).

FARADAYA SALOMONENSIS (Bakh.) Mold., Phytologia 4: 54. 1952.

Synonymy: *Faradaya amicorum* var. *salomonensis* Bakh., Journ. Arnold Arb. 16: 71--72. 1935.

Bibliography: Bakh., Journ. Arnold Arb. 16: 71--72. 1935: Mold., Known Geogr. Distrib. Verbenac., ed. 1, 68 & 92 (1942) and ed. 2, 150 & 185. 1949; Mold., Phytologia 4: 54. 1952; Mold., Résumé 204 & 455. 1959; G. Taylor, Ind. Kew. Suppl. 12: 59. 1959; Whitmore, Guide Forests Brit. Solom. Isls. 141 & 181. 1966; Mold., Fifth Summ. 1: 340 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 330 & 547. 1980; Mold., Phytologia 51: 391 & 396. 1982.

A limber, often scandent, woody shrub or very large liana or sometimes "a small terrestrial shrub" [*Brass 2635*], occasionally showy, the whole plant slightly aromatic, at first appressed-puberulent but finally glabrescent; stems gray, smooth; bark brown, lenticellate, brittle; sap not milky; flowering branchlets cinereous-subsericeous; leaf-blades very variable, lanceolate-oblong or obovate, 7--20 cm. long, 3.5--10 cm. wide, apically attenuate to a shortly and subacutely acuminate apex, basally narrowed to an acutely or obtusely cuneate base, marginally entire, pale and glabrous on both surfaces; secondaries 5--7 per side; inflorescence axillary or in showy many-flowered terminal panicles, the cymes trichotomous, basally conspicuously bracteolate; bracts and bractlets oblong-elliptic or sublanceolate, 1--2.5 cm. long, 3--10 mm. wide, silvery-gray and sericeous on both surfaces; peduncles silvery-gray; flower-buds pedicellate, globose; pedicels terete, dlender, 5--15 mm. long, gray-sericeous, basally bracteolate; calyx 5--6 mm. long, 7--10 mm. wide, apically truncate and undate or dentate to distinctly lobed; corolla white, hypocrateriform, glabrous on both surfaces, its tube variable, 1--1.5 cm. long, the lobes ovate or suborbicular, glabrous, marginally ciliate; stamens long-exserted, glabrous; style filiform, to 3 cm. long, glabrous; fruiting-calyx accrescent, often irregularly split, externally sparsely pubescent, but eventually glabrescent (except for the very base); fruit rather large, by abortion consisting of a single pyrene, the pyrenes elongate, 3--4 cm. long, 1.5--2 cm. wide, the nutlets glabrous, appendiculariform, the entire fruit fleshy and red when mature.

The species is based on *Brass 2635* from Waimamura, at 50 m. altitude, on San Cristoval island, collected on August 11, 1932, and on *Brass 3399* from Tiratoña, at 600 m. altitude, on Ysabel island, in the Solomon Islands, collected on December 29, 1932. Brass reports that the species is a common very large liana climbing on littoral rainforest trees, but is has also been collected up to 1200 m. altitude, in flower and fruit in August.

Bakhuizen (1925) notes that this taxon may not be "really different from the typical *F. amicorum*, but differs in its completely glabrous corollas."

The *Whitmore 2460, 2781* and *3399*, cited by Whitmore (1966) as an

unidentified species of *Faradaya*, probably represent the present species. Vernacular names recorded for it are "kwalo ebo" and "naosokoña".

Material of *F. salomonensis* has been misidentified and distributed in some herbaria as *F. splendida* F. Muell.

Citations: SOLOMON ISLANDS: Guadalcanal: *Kajewski 2543* (Bi, Bz--21042). San Cristoval: *Brass 2635* (Bi--cotype, Bz--21010--cotype), *2642* (Bi, Bz--21007). Ysabel: *Brass 3399* (Bi--cotype, Bz--21005--cotype, Ld--photo of cotype, N--photo of cotype).

FARADAYA SPLENDIDA F. Muell., Fragm. Phyt. Austr. 5: 21--22. 1865 [not *F. splendida* K. Schum., 1905].

Synonymy: *Faradaija splendida* Wigman, Teysmannia 1: 488. 1890. *Farradaya splendida* F. Muell. ex Mold., Suppl. List Inv. Names 3, in syn. 1941. *Faraday splendida* F. Muell. ex Datta, Handb. Syst. Bot. 182, sphalm. 1965.

Bibliography: Seem., Journ. Bot. Lond. 3: 257 & 258. 1865; Seem., Fl. Vit. 190. 1866; F. Muell., Fragm. Phyt. Austr. 5: 21--22 (1865) and 6: 153. 1868; Benth. & F. Muell., Fl. Austral. 5: 69. 1870; Seem., Fl. Vit. 441. 1873; F. Muell., Descr. Notes Papuan Pl., imp. 1, 6: 47 & 48. 1875; F. Muell., Sec. Syst. Census Austr. Pl. 1: 173. 1889; K. Schum. & Hollr., Fl. Kais. Wilhelmsl. 122. 1889; F. M. Bailey, Cat. Indig. Nat. Pl. Queensl. 35. 1890; Wigman, Teysmannia 1: 488--489. 1890; Hook. f., Curtis Bot. Mag. 117: pl. 7187. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 946. 1893; Warb., Engl. Bot. Jahrb. 18: 209. 1894; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 174. 1895; K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee 524--525. 1900; F. M. Bailey, Queensl. Fl. 4: 1165 & 1181. 1901; F. M. Bailey, Compreh. Cat. Queensl. Pl. 385 & 386, fig. 363. 1913; Hamlyn-Harris & F. Sm., Mem. Queensl. Mus. 5: 1--22. 1916; H. J. Lam, Verbenac. Malay. Arch. 229, 234--236, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94--95. 1924; H. J. Lam in Bakh. & Lam, Nova Guinea 14 Bot. 1: 169--170. 1924; Bakh., Journ. Arnold Arb. 10: 72. 1929; Bakh. in White, Journ. Arnold Arb. 10: 264. 1929; Howes, Kew Bull. Misc. Inf. 1930: 145. 1930; Stapf, Ind. Lond. 3: 173. 1930; Junell, Symb. Bot. Upsal. 1 (4): 109, 110, pl. 6, fog. 3, & text fig. 173. 1934; Mold., Suppl. List Inv. Names 3. 1941; Kanehira & Hatusima, Bot. Mag. Tokyo 56: 114. 1942; Mold., Alph. List Inv. Names 21. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 66, 67, 69, 73, & 92. 1942; Lam & Meeuse, Blumea 5: 236. 1945; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 946. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 147, 149, 153, 160, & 185. 1949; Webb, Bull. Sci. Indust. Res. Org. Melbourne 241: 53. 1949; Sastri, Wealth India 4: 7, fig. 5. 1956; Mold., Résumé 194, 195, 201, 202, 209, 218, 294, & 455. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 946. 1960; Willaman & Schubert, Agr. Res. Serv. U. S. Dept. Agr. Tech. Bull. 1234: 236. 1961; Datta, Handb. Syst. Bot. 182. 1965; Maheshwari & Singh, Dict. Econ. Pl. India 69. 1965; Burkill, Dict. Econ. Prod. Malay Penins. 1: 1013. 1966; Mold., Résumé Suppl. 15: 20 (1967) and 16: 13. 1968; Burns &

Rotherham, Austral. Butterflies 94. 1969; Corner & Watanabe, Illustr. Guide Trop. Pl. 760. 1969; Mold. in Menninger, Flow. Vines 334. 1970; Mold., Fifth Summ. 1: 324, 333, 336, 338, & 346 (1971) and 2: 519 & 878. 1971; T. B. Muir, Muelleria 2: 166. 1972; Hegnauer, Chemotax. Pfl. 6 [Chem. Reihe 21]: 675. 1973; Gibbs, Chemotax. Flow. Pl. 3: 1753 & 1754. 1974; Mold., Phytologia 28: 449. 1974; Lord, Trees Shrubs Austr. Gard., ed. 5, 376. 1978; F. Muell., Descr. Notes Papuan Pl., imp. 2, 6: 47 & 48. 1979; Mold., Phytol. Mem. 2: 315, 323, 326, 328, 336, 353, & 547. 1980; Mold., Phytologia 51: 388, 389, 392, 393, & 395. 1982.

Illustrations: Hook. f., Curtis Bot. Mag. 117: pl. 7187 (in color). 1891; F. M. Bailey, Compreh. Cat. Queensl. Pl. fig. 363. 1913; Junell, Symb. Bot. Upsal. 1 (4): 110, text fig. 173, & pl. 6, fig. 6. 1934; Sastri, Wealth India 4: 7, fig. 5. 1956; Corner & Watanabe, Illustr. Guide Trop. Pl. 760. 1969.

A strong-growing or rambling ornamental vine or liana, to 20 m. long, or large, scrambling, and mostly glabrous shrub, occasionally prostrate, or even a small erect tree when growing in the open; stems pale-brown or pale greenish-brown; branchlets at first minutely puberulent but eventually glabrescent; wood brown, coarse-grained; leaves decussate-opposite; petioles 1.5--5 cm. long, sometimes at first minutely puberulent, eventually glabrous; leaf-blades chartaceous or subcoriaceous, pale- or dark-green and glossy above, ovate or oblong-elliptic to subrotund, 11--30 cm. long, 7--12.5 cm. wide, apically acuminate or acute, sometimes subobtuse, marginally entire, basally rounded to truncate or deeply cordate, glabrous on both surfaces except for the minutely puberulent prominent venation beneath; secondaries 5--7 pairs, with 1--10 glands in (or just below) the axils of the lowest pair beneath, sometimes with some scattered glands on both surfaces; inflorescence axillary and terminal, cymose, mostly lax, glabrous or subglabrous, the upper ones sometimes forming a large panicle; peduncles 2.5--6 cm. long; flowers large, very showy, fragrant with the odor of *Dianthus caryophyllus*; pedicels 0.3--1.4 cm. long; calyx green or pale-green, 1.5--2.5 cm. long, usually bilobed to about the middle, externally minutely puberulous, with some large external glands, the lobes apically acute; corolla white or greenish, externally glabrous, its tube slender, infundibular, 2--4 cm. long, the limb 4-(or rarely 5-) lobed, occasionally somewhat bilabiate, with a line of soft hairs or subglabrous, the lobes about 2 cm. long, to 1.5 cm. wide; stamens 4 (or sometimes 5), exserted, inserted near the middle [or at the base?] of the corolla-tube, the place of insertion long-pilose; filaments white, about 6.5 cm. long, basally long-pilose; anthers cream-color or pale-brown, exserted; style white, about 6.5 cm. long; stigma shortly bifid; fruit ovoid, usually composed of 4 (sometimes 1--3 by abortion) basally connate pyrenes, each 1-seeded, externally glabrous or minutely puberulous, sometimes slightly verruculose.

This is the type species of the genus and is native to Australia, New Guinea, and the Aroe and Talaut Islands and is widely cultivated outdoors for ornament in tropical portions of both hemispheres and in greenhouses elsewhere. *Faradaya papuana* Scheff. and *F. alber-*

tisii F. Muell. are sometimes regarded as conspecific with *F. splendida*, but are probably distinct, albeit very closely related, taxa. A tentative key to distinguishing these species follows:

1. Inflorescence only axillary.....*F. albertisii*.
1a. Inflorescence only terminal or both axillary and terminal.
  2. Leaf-blades elliptic, apically obtuse, basally acute to obtuse; inflorescence dense; corolla-lobes to 5 mm. wide; pedicels to 3 mm. long.....*F. papuana*.
  2a. Leaf-blades ovate, apically acute, basally rounded to truncate; inflorescence laz; corolla-lobes to 15 mm. wide; pedicels to 10 mm. long.....*F. splendida*.

The acrid fruit of *Faradaya splendida* is said to be edible. The middle layer of bark in the stems is a powerful fish-poison, effective and rapid in killing fish and other aquatic animals even when used in great dilution, the active principle being a saponin. The roots have been found to contain an alkaloid substance. The species is the host foodplant of the common oakblue butterfly (*Narathura micale amphis*).

Hamlyn-Harris & Smith (1916) give an interesting account of the use of this plant as a fish-poison: "Portions of the vine.... are cut into foot lengths; the outer layer of the bark is removed and rejected, the middle layer alone being preserved. This is carefully scraped off and made up in shapely little piles on fresh green leaves. When a sufficiency is obtained it is rubbed on to stones previously heated by fire. The stones being them thrown into a creek or a little lagoon left by the receding tide, the poison becomes disseminated, with fatal results to all fish and other marine animals.

"Approached as to his opinion as to whether the use of specific portions of the plant was arrived at by accident or coincidence, 'The Beachcomber', whose numerous contributions to Queensland Ethnology are of the greatest possible value, and who speaks from first hand knowledge, states:-- 'I am fairly certain, from the mental qualities of the race, that most of its discoveries were accidental, though in the case of "Koie-Han" there must have been investigation. I am of the opinion that the crescent of the fish-hooks was evolved from the way in which a certain oyster-shell weathers on the beach, and that indeed Nature showed the several stages of the process of making, for I have found models of them all. Do not the inventions of the moderns prove the theory of evolution? With few exceptions each embraces gradual improvements on the original germ. In the case of most of the fish-poisons it seems to me safe to believe that they result from the happy chance.'"

There is not sufficient accurate information available as yet to enable me to offer a definitive key to all the taxa tentatively accepted at this time, but a tentative one to at least most of the taxa may be presented as follows:

1. Inflorescence only axillary or cauliflorous.
  2. Inflorescence in the axils of existing leaves, not cauliflorous.....*F. albertisii*.
  2a. Inflorescence cauliflorous

3. Native of Papua.....*F. dimorpha* var. *cauliflora*.
3a. Native of the Fiji Islands.....*F. vitiensis*.
1a. Inflorescence terminal only or both axillary and terminal, paniculate, not cauliflorous.
4. Leaves often ternate or both subopposite and ternate.
5. Leaf-blades with up to 10 orbicular glands in the axils of the lowest secondaries on the under leaf-surface..... *F. dimorpha*.
5a. Leaf-blades with only a few or no glands...*F. ternifolia*.
4a. Leaves regularly decussate-opposite.
6. Stamens distinctly didynamous.
7. Flowers very large; calyx 2.5--5.5 cm. long; corolla-lobes 5 cm. long, bifid to the middle; stamens 14 cm. long or longer.....*F. magniloba*.
7a. Flowers smaller; calyx not over 2.5 cm. long; corolla-lobes 2.5 cm. long; stamens 7.5 cm. long.
8. Lower leaf-surface with stellate scales...*F. squamata*.
8a. Lower leaf-surface without scales.....*F. albertisii*.
6a. Stamens irregularly, not distinctly, or not at all didynamous.
9. Flowers very large; calyx 2.5--5.5 cm. long; corolla-lobes 5 cm. long, bifid to the middle; stamens 14 cm. long or longer.....*F. magniloba*.
9a. Flowers smaller; calyx to 2.5 cm. long; corolla-lobes 2.5 cm. long, not bifid.
10. Lower leaf-surface with stellate scales...*F. squamata*.
10a. Lower leaf-surface without scales.
11. Leaf-blades with several, prominent, discoid glands near the base beneath.
12. Leaf-blades completely glabrous beneath..... *F. matthewsii*.
12a. Leaf-blades minutely puberulent on the venation beneath.
13. Inflorescence lax, the branches glabrate or subglabrate; pedicles to 14 mm. long; calyx mostly over 2 cm. long during anthesis; corolla-lobes to 15 mm. wide; leaf-blades broadly ovate or ovate-elliptic, basally mostly cordate or subcordate, apically acute or short-acuminate..... *F. splendida*.
13a. Inflorescence dense, the branches densely puberulent; pedicels only to 3 mm. long; calyx only 1.6--2 cm. long during anthesis; corolla-lobes only to 5 mm. wide; leaf-blades usually more narrowly ovate or elliptic, basally rounded or truncate, apically long-acuminate...*F. papuana*.
11a. Leaf-blades without prominent discoid glands or, at most, with only a very few.

14. Young branchlets, bracts, peduncles, and pedicels tomentellous or gray-sericeous.
15. Corollas pubescent.....*F. amicorum*.
15a. Corollas glabrous.....*F. salomonensis*.
14a. Young branchlets, bracts, peduncles, and pedicels merely puberulent or glabrous.
16. Stamens inserted in the throat or near the middle of the corolla-tube; leaves opposite.
17. Leaf-blades basally distinctly pli-nerved, the lowest pair of secondaries reaching the middle of the leaf; corolla-tube 0.5--1 cm. long; secondaries 4--6 pairs.
18. Leaf-blades basally cordate, apically obtusely attenuate, 10--14 cm. long and 8 cm. wide..... *F. parviflora*.
18a. Leaf-blades basally cuneate, apically acute, 12--15 cm. long and 3.5--6 cm. wide..... *F. parviflora* var. *angustifolia*
17a. Leaf-blades basally not distinctly pli-nerved; the lowest pair of secondaries not reaching the middle of the leaf; corolla-tube 1.5--1.7 cm. long; secondaries 6--8 pairs.....*F. nervosa*.
16a. Stamens inserted near the base of the corolla-tube; leaves often ternate.....*F. ternifolia*.

This strictly tentative key does not include all the taxa treated in the present work and is based mainly on the key presented by Lam (1919), the last monographer of the genus.

Vernacular names reported for *F. splendida* are "buku", "koie-han", "koie-yan", "latára", "mumuni". and "pitutu".

Hooker (1891) says that "*F. splendida* was first collected at Rockingham Bay, by Mr. Dallachy, and has since been found (in 1873) much further north, in the Cape York Peninsula, by Mr. W. Hann, about thirty miles from the coast.....Mr. Hann describes the fruit as the size, shape, and colour of a hen's egg, and containing a very acrid kernel." He further states that the species was introduced into England with material sent to Kew from the Brisbane Botanical Garden in 1879 and that "it now forms a climber in the Palm House, the branches of which extend for some distance along the gallery rail, and almost reach the top of the house, 60 ft. above the ground. It is conspicuous by its handsome bright green foliage, and copious panicles of very fragrant snow-white flowers." Burkill (1966) reports that "It grows freely in the Botanic Garden" at Singapore.

Recent collectors have encountered the species on the banks of creeks and in riverine forests and rainforests, in anthesis in June and December. Lord (1978) lists it as cultivated in Brisbane, describing it as having "showy white flowers, 2 inches [long], cup-shaped, 4-lobed, in large clusters at [the] ends of shoots; 6--12 inch leaves, and berries the size and colour of a fowl's eggs." The fruits, of course, are not berries, but are drupes.

Corder & Watanabe (1969) describe the fruit as "large, white, potato-like". Schumann & Hollrung (1889) cite *Hollrung 740* from

New Guinea. Lam (1924) cites *Hollrung 740, Lauterbach 1695, 2238, & 2528, Ledermann 7925 & 12283, Moszkowski 117 & 154,* and *Schlechter 16411* from New Guinea and comments that "Die Verschiedenheit der Angaben über den Habitus der Pflanze (Strauch, Kletterer, Baum) ist etwas auffallend. Vielleicht liegen doch mehrere Arten vor [he regards *F. albertisii* F. Muell. and *F. papuana* Scheff. as synonyms of *F. splendida*], vielleicht aber erscheint hier wieder der Fall, wo innerhalb der Art sowohl die kletterform wie der aufrechte Habitus vorkommt, je nachdem die Pflanze im Walde oder im Freien ihren Standort hat." From New Guinea he cites *Lam 475, Teijsmann 6773, Thomsen 813,* and *Versteeg 1075.* Bakhuizen (1929) cites *Brass 822 & 1631,* also from New Guinea.

Gibbs (1974) reports that syringin is absent from the stems and that the plants give negative results to the HCl/methanol test.

Schumann & Lauterbach (1900) cite *Hollrung 740* and *Lauterbach 3128* from New Guinea, and point out that the species was "Bisher [nur] von Australien bekannt. Warburg ist (Pl. Hollrung 209) der Meinung, dass die Pflanze nicht richtig bestimmt ist, dass sie vielleicht mit *F. papuana* Scheff. im überein stimmt."

Djamber refers to *F. splendida* as occurring in "open-forested swamps". Other collectors have encountered it along riversides and in secondgrowth of rainforests, at 20--1900 m. altitude, flowering from April to November, and in fruit in July, September, and October. Brass refers to it as "prostrate on dry gravelly riverbeds, the branches several m. long"; Hoogland & Pullen describe it as a "climber on low shrubs", while White refers to it as a "common vine in rainforest trees". Hoogland & Womersley found it "fairly common climbing high in trees at edges of secondary forests on brown-gray soil of volcanic origin".

Wigman (1890) asserts that the species is mentioned in "Gardeners Chronicle No. 194 vol. VIII" (1877), but I fail to locate any reference to it there.

The corollas are described as "white" on all collections seen by me where the corolla-color is mentioned at all.

Material has been misidentified and distributed in some herbaria as *F. papuana* Scheff., *Fagraea* sp., and *Loganiaceae.* On the other hand, *Carr 12618* is a mixture of *F. splendida* with something not verbenaceous.

Citations: GREATER SUNDA ISLANDS: Karakalong: *Lam 3342* (Bz--21038, Bz--21039, Bz--25697, Le--93260, N). NEW GUINEA: Papua: *Brass 7442* (Le--938.187-388), *7770* (Le--938.187-362), *8200* (Le--938.187-369), *23923* (Ng--17089); *Carr 11594* (Le--936114-276, N), *12618* in part (N); *Hoogland & Womersley 3243* (Ng--16840, Ng, W--2213514). Territory of New Guinea: *Hoogland 5158* (Ng--8324); *Hoogland & Pullen 6263* (Ng--16841), *6265* (Ng--16841); *Schlechter 16411* (S); *Womersley 3757* (Ng--6482, Ng--16896), *4179* (Ng--16861). West Irian: *Aet 508* (Bz--72962); *Djambari 378* (Ng--16951, Ng); *Gjellerup 729* (Le--926.340-217); *Lam 475* (Bz--21026, Bz--21031, Le--924.324-550); *LeRoux s.n.* [Van Leeuwen 9101] (Bz--72669); *Thomsen 623* (Bz--21030, Le--924.324-535, N). NEW GUINEAN ISLANDS: Japen: *Aet & Idjan 533* (A, Bz--72979). AROE ISLANDS: *Treub s.n.* (Bz--25698). AUSTRALIA: New South Wales: *Cambage s.n.* [Fort of Bellerden, 14-8-13] (W--917526). Queensland: *Fristedt s.n.*

[Jul. 1889] (S); *Kajewski 1293* (S); *H. Reed 12532* (N); *C. T. White 1293* (Kr, N, S). CULTIVATED: Australia: *C. T. White 8624* (B, Ba, Bi). Dominica: *L. H. Bailey 825* (Ba, Ba). Singapore: *Nur s.n.* [29 Dec. 1924] (Ba). Sri Lanka: *Alston s.n.* [November 6, 1927] (Pd); *Collector undetermined s.n.* [March 1896] (Pd, Pd). MOUNTED ILLUSTRATIONS: Drake del Castillo, Illustr. Fl. Ins. Mar. Pacif. pl. 44. 1892 (Ld); F. M. Bailey, Compreh. Cat. Queensl. Pl. fig. 363. 1913 (Ld); Hook. f., Curtis Bot. Mag. 117: fig. 7187. 1891 (Ld).

FARADAYA SQUAMATA H. J. Lam, Verbenac. Malay. Arch. 230. 1919.

Bibliography: H. J. Lam, Verbenac. Malay. Arch. 229, 230, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71--72. 1921; H. J. Lam in Lauterb., Engl. Bot. Jahrb. 59: 94. 1924; A. W. Hill, Ind. Kew. Suppl. 6: 85. 1926; Fedde & Schust., Justs Bot. Jahresber. 47 (2): 245. 1927; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Mold., Résumé 201 & 455. 1959; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 326 & 547. 1980.

A climbing shrub; branchlets glabrous or glabrescent; leaves ternate-verticillate; petioles about 1.5 cm. long and 4 mm. wide, transversely plicate-alate; leaf-blades coriaceous, oblong-elliptic, about 24 cm. long and 10 cm. wide, apically acuminate, marginally entire, basally slightly or moderately cordate, glabrous and shiny above, glabrous and glandular-punctate beneath and covered with many stellate scales; secondaries 8 per side, very prominent and tomentellous beneath; cymes pedunculate, aggregated toward the tips of the branchlets into a composite terminal subumbelliform panicle; pedicels about 5 mm. long; calyx during anthesis 10--13 mm. long, externally tomentellous, elongate-subulate-acuminate, in bud the acumination 2--4 mm. long; stamens 4, white, inserted in the throat of the corolla-tube; corolla white (seen only in bud).

This species is based on *Ledermann 13117* from Felsspitze, in the Sepic Mountains, near Kaiserin-Augusta River, in northeastern New Guinea, collected in bud on September 24, 1913. It is known thus far only from the original collection and Lam (1919) comments that "Although the specimen was an incomplete one, we think to be allowed to base upon it a new species being characterised by its ternate leaves, the stellate scale on the lower side, and its dense inflorescence." It is worth noting that the type locality for this species appears to be the same as for *F. parviflora* Ward. and its var. *angustifolia* H. J. Lam.

FARADAYA TERNIFOLIA F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 46--48. 1886.

Bibliography: F. Muell., Descr. Notes Papuan Pl., imp. 1, 8: 46--48. 1886; K. Schum. & Hollr., Fl. Kaiser. Wilhelmsl. 122. 1889; Hook. f., Curtis Bot. Mag. 117: pl. 7187. 1891; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 1: 170. 1902; Pulle in Lorentz,

Nova Guinea, ser. 1, 8 (1): 402 (1911) and ser. 1, 8 (2): 686. 1914; H. J. Lam, Verbenac. Malay. Arch. 229, 236, & 365. 1919; H. J. Lam in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 71 & 72. 1921; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 1: 170. 1941; Mold., Known Geogr. Distrib. Verbenac., ed 1, 67 & 92 (1942) and ed. 2, 149 & 185. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 1: 170. 1959; Mold., Résumé 201 & 455. 1959; Mold., Résumé Suppl. 15: 13. 1967; Mold., Fifth Summ. 1: 336 (1971) and 2: 878. 1971; T. B. Muir, Muelleria 2: 166. 1972; F. Muell., Descr. Notes Papuan Pl., imp. 2, 8: 46--48. 1979; Mold., Phytol. Mem. 2: 326 & 547. 1980; Mold., Phytologia 51: 396. 1982.

A climbing shrub; leaves usually ternate, sometimes suboppositе; petioles short; leaf-blades thin-chartaceous or subchartaceous, oblong-lanceolate, apically short-acuminate, shiny on both surfaces, the lower surface with only a few or no orbicular glands; secondaries ascending, rather prominent beneath and the veinlet reticulation there also conspicuous; inflorescence shorter than the subtending leaves; primary and secondary peduncles very shortly abbreviated; calyx in bud rather small, pyriform-ovate, apically short-acuminate or only minutely apiculate, 2-lobed, eventually imperfectly bivalvate by a longitudinal split; corolla externally minutely puberulent; stamens inserted near the base of the corolla-tube; filaments basally densely barbate-villous; anthers ovate, downwardly bilobed; style glabrous, ovary depressed-globular, 4-sulcate, externally minutely pubescent or thinly velvety.

This species is based on an unnumbered F. von Mueller collection from the Strickland River, Papua, in southern New Guinea. Lam (1919) comments that "Its affinity is with *F. splendida* and *F. Albertisii*, but its leaves are not narrower above the middle than beneath it, and its calyx is much shorter. It has a general resemblance with *F. Vitiensis*, from the Fitchi-Islands. Mueller (1886) says that "This species is easily distinguished from *F. splendida* and *F. Albertisii* already by the shape of the leaves, not broader in the lower portion than in the upper, also by the very blunt and short calyx. Soma allowance must be made for the imperfectness of the definition, above sketched out, as only specimens in bud are as yet available for examination here. The ternate position of the leaves may not prove a constant characteristic. The form of the leaves bring our plant nearest to *F. Vitiensis*, but they are longer in proportion to breadth, also blunt at the base; the crowded position of the flowers and the size and shape of the calyces are similar; the full difference must be traced out at some future time."

Mrs. Clemens refers to *F. ternifolia* as a "tall vine" with white corollas, and found it in anthesis in August.

The "*Faradaya* prob. *ternifolia*" of Pulle (1911) actually is *F. dimorpha* Pulle.

Citations: NEW GUINEA: Papua: *F. Mueller s.n.* [Strickland River] (Ld--photo of isotype, Mb--isotype, N--photo of isotype). Territory of New Guinea: *M. S. Clemens 10559j* (Mi).

FARADAYA VITIENSIS Seem., Journ. Bot. Lond. 3: 258. 1865.

Synonymy: *Faradaya vitiensis* (A. Gray) Seem. ex Mold., Known Geogr. Distrib. Verbenac., ed. 1, 69 & 92. 1942. *Clerodendron vitiensis* A. Gray, in herb.

Bibliography: Seem., Journ. Bot. Lond. 3: 258. 1865; Seem., Fl. Vit. 190, pl. 44 (1866) and 441. 1873; Horne, Year Fiji 262. 1881; Seem., Descr. Notes Papuan Pl., imp. 1, 8: 48. 1886; Hook. f., Curtis Bot. Mag. 117: pl. 7187. 1891; Drake del Castillo, Illustr. Fl. Ins. Mar. Pacif. 260. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 946. 1893; H. J. Lam, Verbenac. Malay. Arch. 236. 1919; Stapf, Ind. Lond. 3: 173. 1930; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 69 & 92. 1942; Mold., Phytologia 2: 103. 1945; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 151 & 185. 1949; Mold., Résumé 207 & 455. 1959; Mold., Résumé Suppl. 4: 9. 1962; Mold. in Menninger, Flow. Vines 334. 1970; Mold., Fifth Summ. 1: 343 (1971) and 2: 878. 1971; F. Muell., Descr. Notes Papuan Pl., imp. 2, 8: 48. 1979; Mold., Phytol. Mem. 2: 333 & 548. 1980; Mold., Phytologia 51: 396. 1982.

Illustrations: Seem., Fl. Vit. pl. 44. 1866.

A robust shrub or tree, 5--10 m. tall (*Degener & Ordonez 13619, Bryan 612*) or high-climbing liana (*Smith 9199*), glabrous in all its parts; branches thick, glabrous; leaves resembling those of *F. splendida* F. Muell., decussate-opposite or verticillate, the blades oval-oblong or obovate-oblong, 20--25 cm. long (including the petiole), 10--12.5 cm. wide, apically acuminate, marginally entire, basally attenuate into the petiole; cymes corymbose; calyx subbilabiate, glabrous; corolla cream-color, in bud with the lower lobe innermost, the upper lobe outermost and overlapping the two lateral lobes, the tube subinfundibular, 2--3 times as long as the calyx, the lobes oblong, apically obtuse; stamens long-exserted; ovary 4-lobed; infructescences usually borne on the lower part of the main stem (*Smith 9199*); fruit orange to bright red or finally deep-red, succulent.

The species is based on an unnumbered Storck collection from Viti Levu in the Fiji Islands.

The corollas are described as having been "white" on *Bryan 612*, "pure-white" on *Smith 5740* & *9091*, and "cream-white" on *Smith 1717*. The flowers are said to be odorless, the calyx (during anthesis) pure-white or else pale-green and apically whitish, and both the filaments and style pure-white.

Collectors have encountered this plant in thin or dense forests, thickets, and rainforests, at 30--1000 m. altitudes, in flower in May and from September to November, and in fruit in May, November, and December.

Vernacular names reported for it are "wa koro vudi", "wakorovudi", "wa korovundi", and "wa vatu".

The var. *puberulenta* Mold. is now regarded as being synonymous with typical *F. lehuntei* (Horne) A. C. Sm. The *A. C. Smith 1717* collection was regarded by Lam as "*Faradaya*, probably sp. nov. cf. *amicorum* (Seem.) Seem."

Material of *F. vitiensis* has been misidentified and distributed

in some herbaria is *F. amicorum* (Seem.) Seem. or *F. ovalifolia* (A. Gray) Seem. On the other hand, the *Bryan 341*, distributed as *F. vitiensis*, actually is *F. lehuntei* (Horne) A. C. Sm., *Degener & Ordonez 13762* is the type collection of *F. lehuntei* var. *degeneri* (Mold.) Mold., *Gillespie 2616, 2979,* & *3290, Parks 20386* & *20439,* and *Setchell & Parks 15018* are *F. ovalifolia* (A. Gray) Seem., and *Greenwood 966* is *F. ovalifolia* var. *glabra* Mold.

Citations: FIJI ISLANDS: Ovalau: *E. H. Bryan 612* (Bi). Vanua Levu: *A. C. Smith 1717* (Bi, Ca--602344, N, S, W--1676293). Viti Levu: *Degener & Ordonez 13619* (A, Bi, N); *J. W. Gillespie 2596* (Bi), *3640* (Bi), *3738* (Bi); *C. Skottsberg s.n.* [Oct. 13, 1938] (Go, Go); *A. C. Smith 5740* (W--1966156), *5859* (Bi, N), *9004* (Ld), *9091* (Hk, N), *9199* (Hk).

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ADDITIONAL NOTES ON THE GENUS *CONGEA*. III

Harold N. Moldenke

CONGEA Roxb.

Additional synonymy: *Congtia* [Roxb.] ex Mold., Phytol. Mem. 2: 395, in syn. 1980.

Additional & emended bibliography: Roxb., Hort. Beng., imp. 1, 46 & [95]. 1814; Endl., Gen. Pl. 1: 638. 1838; Reichenb., Deutsch. Bot. [Repert. Herb. Nom.] 108. 1841; Walp., Repert. Bot. Syst. 4: 116--118 & 134. 1845; Lindl., Veget. Kingd. 664. 1846; A. L. Juss. in Orbigny, Dict. Univ. Hist. Nat. 13: 185. 1849; W. Griff., Notul. Pl. Asiat., imp. 1, 4: 174--175 & 513, pl. 458, fig. 21. 1854; Bocq. in Baill., Rec. Obs. Bot. 3: 180 & 181. 1863; Pfeiffer, Nom. Bot. 1 (1): 64 (1873) and 2 (2): 989, 1570, & 1593. 1874; Kurz, Forest Fl. Brit. Burma 2: 252 & 256. 1877; Durand, Ind. Gen. Phan. 322. 1888; Collett & Hemsl., Journ. Linn. Soc. Lond. Bot. 28: 111. 1890; Baill., Hist. Pl. 11: 93, 94, & 121. 1891; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 133 & 179--181, fig. 67 G & H. 1895; Post & Kuntze, Lexicon 91 & 689. 1904; F. N. Williams, Bull. Herb. Boiss., ser. 2, 5: 432. 1905; King & Gamble, Journ. Asiat. Soc. Beng. 74 (2 extra): 795, 861, & 864--867. 1908; D. H. Scott in Solered. [transl. Boodle & Fritsch], Syst. Anat. Dicot. 2: 1020 & 1021. 1908; Ridl., Journ. Roy. Asiat. Soc. Straits 59: 158. 1911; Firminger, Man. Gard. India, ed. 6, 2: 389. 1918; J. C. Willis, Dict. Flow. Pl., ed. 5, 169. 1925; Funke, Ann. Jard. Bot. Buitenz. 41: 55. 1930; Navarro Haydon, Flor. Comun. Puerto Rico [12]. 1936; Fletcher, Kew Bull. Misc. Inf. 1938: 208--209, 401, 405--407, 409, & 439--440. 1938; Lemée, Dict. Descrip. Syn. Gen. Pl. Phan. 8b: 657, 995, & 1024. 1943; Metcalfe & Chalk, Anat. Dicot. 2: 1031, 1033, 1035, 1037, 1040, & 1041. 1950; J. C. Willis, Dict. Flow. Pl., ed. 6, 169. 1951; Cor-